

covery of inhibitors of these enzymes has restored the usefulness of several penicillins.

The 'Antimicrobial Activity and Actions of Silver' are reviewed in the seventh chapter by two academics (A.D. Russel, Welsh School of Pharmacy, and W.B.Hugo, Nottingham) who have lengthy experience in antimicrobial research. They trace the pedigree, describe their uses, and discuss in depth the mechanisms of action and bacterial resistance against the silver compounds that have been introduced into antimicrobial therapy.

'Inhibition of the Pharmacological Effects of Endothelin' is the title of the eighth review (C. Wilson and R.B. Hargreaves, ZENECA Pharmaceuticals, UK). This amino-acid peptide is one of the most potent vasoconstrictors known and its effect on the vasculature are characterised by an unusually long duration of action. It is also a potent cellular mitogen and a constrictor of non-vascular smooth muscle. Other effects are on the airways, the gastrointestinal tract, the kidneys and the central nervous system. With such profound biological actions, it is not surprising that, as this review relates, a vast amount of research has been aimed at establishing its physiological or pathological role and inhibiting its actions.

Finally, a review on 'Potassium Channel Activators; Pharmacological Methods, Models and Structure-Activity Relationships' (J.M. Evans and S.G. Taylor, SmithKline Beecham Pharmaceuticals, UK) describes the significance and therapeutic potential of this relatively new type of pharmacological agent.

As with the previous editions of this series, the present volume presents an up-to-date, state of the art account of important topics currently being researched. Each review has a comprehensive reference list and it will obviously be of interest to medicinal and pharmaceutical chemists and also to others, like myself, who like to keep abreast of what is going on in medicinal chemistry. The book is very well presented by its two editors and the only criticism that I have is the price, which I think is excessive and will undoubtedly restrict its sales.

P.F. D'Arcy

School of Pharmacy
The Queen's University of Belfast
Belfast, UK

SSDI 0378-5173(95)04266-D

Validation Compliance Annual, 1995

International Validation Forum, Inc., Marcel Dekker, New York, 1995, ISBN: 0-8247-9459-1, Price US\$195.00.; 1120 pages.

This weighty annual is essentially a compendium of government regulations relating to the manufacture of pharmaceuticals, medical devices and similar regulated manufacturing activities. On reading the book, 'government' clearly refers to the United States and, in particular, its statutory authorities, the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA). Indeed, much of the book consists of a reproduction of general regulations issued by the FDA and EPA, together with those regulations promulgated by the European Union (EU) in respect of pharmaceuticals and medical devices manufacturing. In addition, the entire FDA regulatory framework relating to inspections of drugs, biologics and devices manufacturing is also reproduced in the context of setting validation within the overall GMP framework. The regulatory documentation is published with a relatively small amount of comment, included as an 'overview' to each relevant chapter. There is also an extensive section summarising recent FDA adverse findings in the form of brief case histories. These are, in fact, so brief as to be of rather limited value. Perhaps of greater use is the extensive glossary of QA and related terminology.

Although 'validation' is the object of the book, the reader will find that, on closer inspection, the overall emphasis is specifically on computer systems validation, now vitally important in modern mass manufacturing of pharmaceuticals and medical devices but something of a speciality in itself. I found it confusing at times that computer sys-

tems validation was intermingled with GMP regulations encompassing the validation concept in general. Nevertheless, for the validation specialist, this annual is probably a ‘must’ for the office bookshelf, albeit as a reference source rather than as a commentary on the subject.

A.D. Woolfson
School of Pharmacy
The Queen’s University of Belfast
Belfast, UK

PII S0378-5173(96)04476-6